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be distinctly visible when the light of their Capellan companions is too faint to enable them to be observed separately. This fact should not be lost sight of in speculations relative to the structure of the Galaxy. Certainly, among the nearer stars which are in the same direction as the Galaxy, many (including the famous *α Centauri* and *61 Cygni*) are of the solar type. Is there any valid reason for regarding the more distant stars in this direction as almost exclusively Sirian? I think not.

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### THE SPECTRA AND PROPER-MOTION OF STARS.

#### [SUPPLEMENTAL NOTE.]

By W. H. S. MONCK.

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Having obtained the spectra and proper-motion of a larger number of stars than I had hitherto done by a comparison of the British Association catalogue with the DRAPER catalogue, I thought it desirable to take the different sub-classes into which Professor PICKERING divides the stellar spectra separately. I found a sufficient number of stars with the following spectra to render a comparison feasible; viz. A, B, E, F, G, H, I, K, and M. I compared the proper-motions of the stars of these types (rejecting, in the first instance, all those marked with a note of interrogation in the DRAPER catalogue) in Declination or North Polar Distance, only ascertaining what proportion of them had a proper-motion of one tenth of a second annually in this direction. All my percentages are somewhat too small, because the divisor included some stars whose proper-motion is not given in the British Association catalogue, but whose spectra I copied into my note-book, with a view of subsequently ascertaining their proper-motions from some other source, which I have not yet done. The percentages which I obtained were as follows:—

Spectrum.	Percentage of stars with requisite motion.
B . . . . . . . . . . .	0.0
A . . . . . . . . . . .	8.8
H . . . . . . . . . . .	16.0
M . . . . . . . . . . .	16.7
I . . . . . . . . . . .	18.9
K . . . . . . . . . . .	22.6
F . . . . . . . . . . .	31.2
E . . . . . . . . . . .	31.7
G . . . . . . . . . . .	40.7

The stars of this last type were not numerous enough to justify the conclusion that the proper-motion is really greater than those of the types E and F.

While the stars classed as A gave a percentage of 8.8, those marked A? (of which there were over 130) gave a percentage of 12.8. This was to be expected, as the intrusion of stars of any other type (except B) would increase the average proper-motion. On the other hand, the stars marked F? gave only 22.6 per cent. and those G? 25.0; but those marked E? gave the high percentage of 36.8. Classing E, F, and G, however, together as Capellan stars, the unqueried Capellans gave a percentage of 31.8, and the queried Capellans a percentage of 28.9, thus confirming the result that the intrusion of stars of any other type among the Capellans will reduce their average proper-motion. H? gave a percentage of 12.6, as compared with 16.0 for H; but I? and K? gave 24.4 and 29.0 as compared with 18.9 and 22.6 for unqueried stars of the same types. On the whole, if we designate the types H, I, and K as Arcturian, the queried Arcturian stars gave a little more proper-motion than the unqueried. The reverse is true of the type M. The extremely low proper-motion of the stars of the Orion type B is remarkable. I had seventy-five of them to compare, the proper-motions of seventy-two being known. Not one of these had a proper-motion of one tenth of a second in N. P. D., while out of twenty-seven stars of the type G, no less than eleven possessed it. It will be seen that the superior proper-motion of the Capellan stars over the Arcturian (with which stars of the type M may be classed) is quite as strongly marked as that of the Arcturian over the Sirian.

This difference of proper-motion will, I think, be found to arise not from the greater actual velocity, but from the greater nearness (on the average) of the Capellan stars. The entire subject, however, calls for further investigation.